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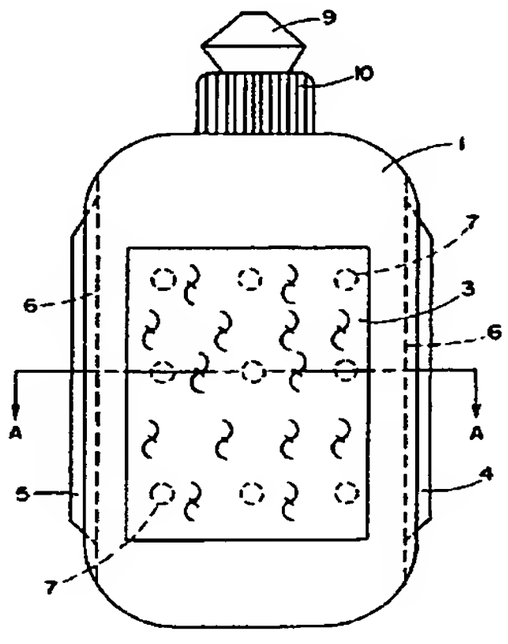
(54) DISPOSITIF DE NETTOYAGE POLYVALENT COMPACT
(54) COMPACT MULTI-PURPOSE CLEANING DEVICE

(57)

A compact hand held multi-purpose cleaning device for removing unwanted matter from a surface is provided. The cleaning device comprises, a container body normally filled with a cleaning fluid, an aperture in the body, a selective fluid control mounted on and covering the aperture and cleaning elements mounted on the body. The cleaning elements can be held in a body recess in a fixed, adjustable or removable manner and are generally in the form of abrasive material, sponge wiping material, a wiper blade and a scraper blade. The proper application of any one or all of the cleaning elements with or without application of the cleaning fluid will ensure a most desirably clean surface.



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(12) (19) (CA) **Demande-Application**

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(54) **DISPOSITIF DE NETTOYAGE POLYVALENT COMPACT**

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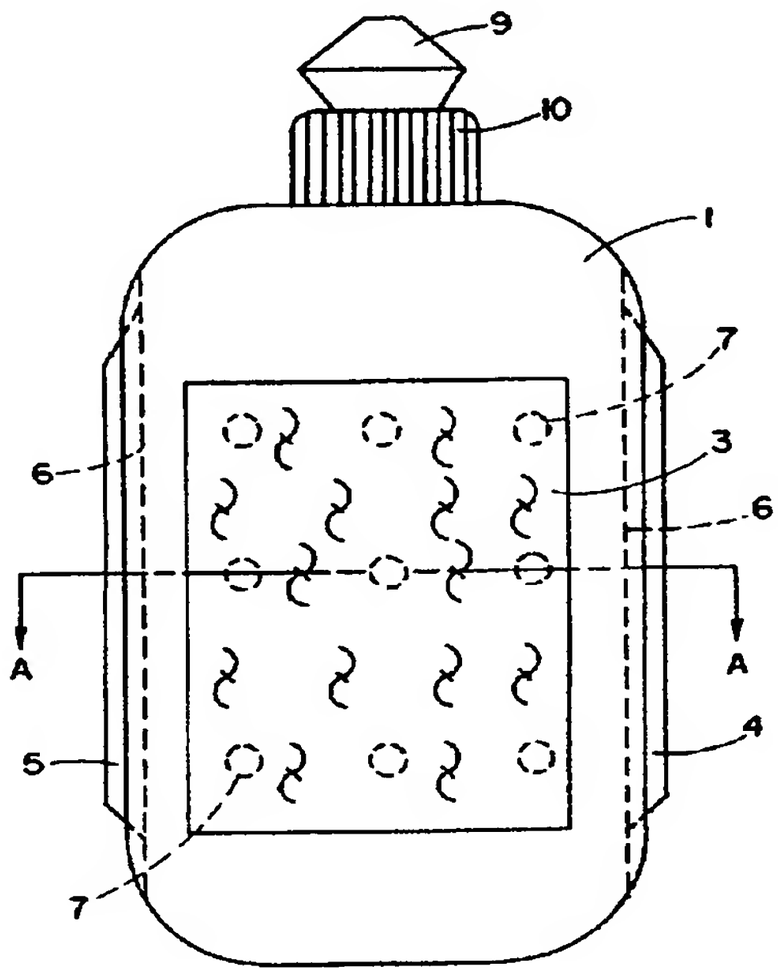

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ABSTRACT OF THE DISCLOSURE

A compact hand held multi-purpose cleaning device for removing unwanted matter from a surface is provided. The cleaning device comprises, a container body normally filled with a cleaning fluid, an aperture in the body, a selective fluid control mounted on and covering the aperture and cleaning elements mounted on the body. The cleaning elements can be held in a body recess in a fixed, adjustable or removable manner and are generally in the form of abrasive material, sponge wiping material, a wiper blade and a scraper blade. The proper application of any one or all of the cleaning elements with or without application of the cleaning fluid will ensure a most desirably clean surface.

COMPACT MULTI-PURPOSE CLEANING DEVICE

FIELD OF THE INVENTION

The present invention relates to the cleaning of a surface with extraneous material thereon and more particularly to means for containing and dispensing a supply of cleaning material onto the surface and means to abrade, wipe or scrape the extraneous material and/or the cleaning material, from the surface.

BACKGROUND OF THE INVENTION

This application is related to and is a modified version of the invention described in applicant's Canadian Patent 2,204,193 granted and issued on 1999/11/09.

In the cleaning of headlights, side windows, outside rear view mirrors and even windshields, it is a common practice to use a squeegee and bucket of water or cleaning fluid provided by a service station when one fills up with gas.

The big problem is that one is not always handy to service station facilities when the undesirable matter arrives on surfaces that are necessary to the safety of all concerned. People have resorted to sponges, rags or even a handful of snow to improve degenerating visual conditions.

In an effort to remove the unwanted condition of matter on a surface several attempts have been made as shown in U.S. Patent 3,276,067 to Boyle et at, U.S. Patent 3,226,761 to Adamsky and Canadian Patent 1,054,320 to Hardy.

United States Patent "067" teaches pressure responsive slits in a flexible wall of a container to meter the flow of liquid therefrom. An applicator pad is placed on the container over the slits to receive the liquid and apply it to a surface as it is moved thereover. The instant invention does not have a flexible wall container slit to control fluid flow, nor a wiping pad covering the slits.

United States Patent "761" again has a pliable container which is distorted by hand thereby opening a valve to permit fluid in the container to flow on to a surface to be cleaned. An applicator sponge is attached to the container body to spread the fluid applied to the surface. This device is similar to the instant invention only in that a sponge is used to spread the fluid after it has been released from the container. This device has several shortcomings which have been overcome by the invention herein described. The invention has a semi-rigid body which will not accidentally disperse fluid therefrom by flexing of the body nor will it disperse fluid as the body is held tightly in the hand when wiping the fluid and extraneous matter from a surface to be cleaned. The fluid is under complete control at all times, providing a direct location of fluid application and the desired amount applied. This control makes for easy storage such as in the glove box or other compartment in an automobile.

Canadian Patent "320" teaches a liquid dispensing bottle adapted for use in a squeegee operation. The body of the container has a trigger operated dispensing mechanism and a squeegee mounted thereon. The

squeegee "per se" in this case is not directly mounted on the container body, thus it can only carry out a single function. No further functions have been provided for or even suggested. The direct attachment to the container body is what is required for a compact multi-cleaning device.

SUMMARY OF INVENTION

The removal of the above mentioned vehicle hazards or even cleaning in the home may be accomplished by providing, a container normally but not necessarily filled with a cleaning fluid, an opening in the container having flow control dispensing means mounted thereon, if required, and one or more extraneous matter engaging elements any of which are mounted in a recess on the container and may include, a rough or coarse abrasive type material held in a fixed, adjustable or removable manner adjacent to a first portion of the container, a sponge or wiping material held in a fixed, adjustable or removable manner adjacent to a second portion of the container, a wiper blade held in a fixed, adjustable or removable manner adjacent to a third portion of the container and a scraper blade held in a fixed, adjustable or removable manner adjacent to a fourth portion of the container. Any combination of any or all of the above elements is conceivable and practical in the cleaning process. Various operations can be performed with the above compact multi-cleaner but the end result is the removal of unwanted foreign matter from a surface.

It is therefore the principal object of the instant invention to provide a compact effective device for cleaning a surface in a

practical and expeditious manner.

It is a further object of this invention to provide a combination dispensing and abrading device for cleaning a surface.

It is a further object of this invention to provide a combination dispensing and wiping device for cleaning a surface.

It is a further object of this invention to provide a combination dispensing and scraping device for cleaning a surface.

It is a further object of the instant invention to provide one or more fixed, adjustable, and/or removable matter engaging elements on a hand manipulable container

It is yet a further object of this invention to provide an economical, easy to manufacture cleaning device to aid in the safe operation of a vehicle of any kind.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows a front elevation view of the cleaning device.

Fig. 2 shows a view taken at the cutting plane A-A in figure 1.

Fig. 3. shows a view similar to figure 2 wherein the pads are of the "snap in" or "slide in" type.

Fig. 4. shows a detailed view of the area B in figure 3. The pads would in fact be in contact with the body

parts but are shown separated for clarity.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring now to figure 1 there is here shown a container body means 1, which is normally of semi-rigid plastic, normally translucent and which can have various shapes. This container body is for storing a quantity of a cleansing material that can assist in the removal of an undesirable matter from a surface to be cleansed. The cleansing material is normally a fluid such as water and in the case of the automotive art it would probably be windshield washer fluid. A fine powder is also conceivable. The container body 1 has on an upper surface thereof an opening or aperture for egress of material therefrom. The container body 1 has the cleansing fluid replenished through this same aperture. Mounted on this opening or aperture is a removable container cap 10 carrying a dispensing valve 9. The cap 10 is normally threadeably attached to the aperture and the valve 9 is opened and closed by an on-off vertical movement to control the dispensing of the fluid. The dispenser may also be in the form of a spray pump for a more controlled dispensing. On or adjacent one portion of the container body 1 is an abrasive material 3 of coarse texture usually required to remove matter strongly adhering to a surface. On or adjacent a second portion of the container body 1 is a sponge type of wiping material means 2 of finer texture than material 3 usually required to remove or wipe off matter easily removable from a surface. These materials 2 and 3 may also both be on the same side of container body 1 with the other side being used for advertising or the same material may be placed on both sides. The materials 2 and 3 are normally held in position in a recess 8

shown in fig 2 by an adhesive means 7. VELCRO or other adhering means are also conceivable. A wiping blade means 5 normally made of rubber is held in a fixed, adjustable and/or removable manner adjacent a third portion of container body 1 which is normally an edge thereof. The wiping blade 5 is slideably positioned in groove 6 in container body 1. A scraping blade means 4 normally made of rigid plastic is held in a fixed, adjustable and/or removable manner adjacent a fourth portion of container body 1 which again is normally an edge thereof. The scraping blade 4 is slideably positioned in a second groove 6 in container body 1. Scraping blade 4 is normally used for the removal of thin ice or frost both inside and outside of a vehicle. It may not be necessary to apply liquid to the frost.

Now looking at figure 2 there is here shown a cross section taken at A-A in figure 1. The container body means 1 is normally elliptical, rectangular or the like in cross section making it readily manipulable when grasped by one's hand and so that the edges with grooves 6 where the rubber wiper means 5 and plastic scraper means 4 are mounted leaves them readily accessible to perform their function. The wiping material means 2 and the coarser abrasive type of material 3 are here shown in depressions or recesses 8 where they are held by mounting or retaining means 7 which as previously mentioned may be an adhesive, VELCRO or other adhering means. The materials 2 and 3 may in fact be sprayed on to the surface of depressions 8.

Now looking at figure 3 there is again shown the basic cleaner with the wiping material means 2 the abrasive material means 3, the container body means 1, the wiper blade means 5 and the scraper blade

means 4. The difference here is shown in the amplification of area B as in figure 4. It is here shown that the materials 2 and 3, which of course may be any shape such as rectangular round, triangular, square, or the like, are mounted on a plate or base 11 by various means and then slid into a groove or grooves 12 formed between container body 1 and the recess or depression 8 formed in container body 1. The groove 12 may be completely around the circumference of the recess 8 or on only a portion or portions thereof. The plate 11 with material 2 and/or 3 attached may be flexed to reduce a dimension and then released to fit into a groove or grooves 12 as an alternative method of assembly. For sliding assembly and flex assembly of such as a square or rectangular base 11 the grooves 12 need only be for two parallel sides and open at one end as are grooves 6 in figure 1.

There could also be a tester in the container to indicate if the fluid is H_2O or $C_2H_6O_2$ to prevent picking up a solid unuseable device (frozen).

Various modifications such as size, shape and arrangement of components may be made without departing from the spirit and scope of this invention. The above disclosure shall be interpreted as illustrative only and limited only by the scope of the invention as defined in the following claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A compact hand held multi-purpose cleaning device comprising in combination, a semi-transparent container body for fluids being generally elliptical in cross section, said container body having a somewhat curved first face and a somewhat curved second face, curved side edges joining said first face and said second face, a top end and a bottom end both joined to said first face, second face and curved side edges to form said container body, a threaded opening in said top end for filling or emptying said container body, a removable cap mounted on said threaded opening, said removable cap carrying a slideable on-off valve for control of said fluid, a first and second recess, a flexible wiper blade slideably mounted in said first recess on one of said curved side edges, a rigid scraper blade slideably mounted in said second recess on a second of said curved side edges whereby said fluid from said container body placed on a surface containing extraneous matter may be cleaned by engaging said fluid and matter with the application of said cleaning device to said surface.

2. A cleaning device as claimed in claim 1 further comprising an abrasive type wiping material fixed to said somewhat curved first face and a sponge type wiping material fixed to said somewhat curved second face.

3. A cleaning device as claimed in claim 2 wherein said container body is made of plastic, wherein said flexible wiper blade is

made of rubber and wherein said rigid scraper blade is made of plastic.

4. A container applicator used to remove undesirable matter from a surface comprising in combination, a fluid container means, an aperture means in said fluid container means to allow egress of fluid relative to said fluid container means, a removable closure means mounted on said aperture means including a selective fluid control means, said fluid container means including a slightly curved recessed first face, abrasive type material held adjacent said recessed first face, a slightly curved recessed second face, and sponge type wiping material held adjacent said recessed second face whereby said fluid from said fluid container means placed on a surface containing foreign matter may be cleaned by moving said container applicator over said surface and in contact therewith.

5. A container applicator as claimed in claim 4 further including a first curved edge joining said recessed first and second faces, a flexible wiper blade held adjacent said first curved edge, a second curved edge joining said recessed first and second faces, and a rigid scraper blade held adjacent said second curved edge.

6. A container applicator as claimed in claim 5 wherein said fluid container means is elliptical in cross section wherein said wiper blade is made of rubber and wherein said scraper blade is made of plastic.

7. A container applicator for use in removing undesirable matter

from a surface comprising in combination, a fluid container body, said container body including at least three recessed surfaces, abrasive material covering a first recessed surface of said at least three surfaces, wiping material covering a second of said at least three recessed surfaces, a wiper blade mounted on a third of said at least three recessed surfaces, an aperture in said fluid container body to permit egress of said fluid and means mounted on said container body to selectively control said egress of fluid therefrom.

8. A container applicator as claimed in claim 7 further including a fourth surface, a scraper blade mounted on said fourth surface, and wherein said selective fluid egress control is a spray pump.

9. A container applicator as claimed in claim 7 further including a fourth surface, a scraper blade mounted on said fourth surface and wherein said selective fluid egress control is an on-off slide valve.

10. A container applicator as claimed in claim 7, 8 or 9 wherein said fluid container body is substantially elliptical in cross section for ease of hand manipulation.

11. In a compact hand held multi-purpose cleaning device, a container body for storing cleaning fluid, a front recessed surface on said container body, a rear recessed surface on said container body, abrasive material covering said front recessed surface, wiping material covering said rear recessed surface and

means on said container body to selectively control exit of said cleaning fluid therefrom.

12. In a compact hand held multi-purpose cleaning device, a container body for storing cleaning fluid, a recessed surface on said container body, abrasive material covering said recessed surface, a further surface on said container body, a scraper blade mounted on said further surface and selective control means mounted on said container body to control exit of said cleaning fluid therefrom.

13. In a compact hand held multi-purpose cleaning device, a container for storing a cleaning material a recessed surface on said container, a sponge wiping material held adjacent said recessed surface, a further surface on said container body, a scraper blade mounted on said further surface and selective control means mounted on said container to control exit of said cleaning material therefrom.

14. In a compact hand held multi-purpose cleaning device, a container body for holding a supply of cleaning fluid, a recessed surface on said container, a sponge wiping material held adjacent said recessed surface, a further surface on said container body, a wiper blade mounted on said further surface and selective control means mounted on said container to control exit of said cleaning material therefrom.

15. A compact multi-purpose cleaning device comprising in

combination, a hand manipulable container body, one or more recesses in said container body, an extraneous matter engagement element mounted in at least one of said one or more recesses in said container body whereby a surface containing extraneous matter may be cleansed thereof by a movement engaging said surface with one or more of said matter engagement elements.

16. A container applicator used to remove matter from a surface comprising in combination, a vertically elongate body member generally elliptical in transverse cross section, and including a first and second vertical side edge, a body-content control means mounted on one end of said vertically elongate body member, a first elongate element basically triangular in cross section removably held adjacent said first vertical side edge of said vertically elongate body member, a second elongate element basically triangular in cross section removeably held adjacent said second vertical side edge of said vertically elongate body member, a first recessed body portion and a second recessed body portion, a first coating of a coarse texture held adjacent said first recessed portion of said elongate body member and a second coating of a fine texture held adjacent said second recessed portion of said elongate body member.

17. A container applicator as claimed in claim 16 wherein said first elongate element basically triangular in cross section is of a flexible material and wherein said second elongate element basically triangular in cross section is of a rigid material.

18. A container applicator as claimed in claim 17 wherein said first recessed body portion and said second recessed body portion are slightly convex surfaces.

19. A compact multi-purpose cleaning device as claimed in claim 15 wherein any of said engagement elements mounted in said one or more recesses are releasably held therein.

20. A compact multi-purpose cleaning device as claimed in claim 19 wherein said hand manipulable container body has mounted thereon selective control means for dispensing cleaning material from said container body.

21. A compact multi-purpose cleaning device as claimed in claim 20 wherein said selective control means is a spray pump.

22. In a cleaning device, a handle including a first, a second, a third and a fourth recess, a flexible blade mounted in said first recess in said handle, a scraper blade mounted in said second recess in said handle, coarse abrasive material mounted in said third recess in said handle and a sponge wiping material mounted in said fourth recess in said handle.

23. A cleansing device as claimed in claim 22 wherein said handle is hollow, capable of containing fluid and having a dispensing outlet for said fluid contained therein.

24. A cleaning device as claimed in claim 22 wherein said flexible

blade and said scraper blade are releasably mounted in their respective recesses.

25. A cleaning device as claimed in claims 22, 23, or 24 wherein said coarse abrasive material and said sponge wiping material are releasably mounted in their respective recesses.

26. A compact hand held multi-purpose cleaning device comprising in combination; a semi-transparent container body for fluids, being generally elliptical in cross section, said container body including a somewhat curved recessed front face and a somewhat curved recessed rear face, curved side edges each having a recessed groove and joining said front face and said rear face, a top end and a bottom end joined to said front face, said rear face and said curved side edges to form said container body, a threaded opening in said top end for filling or emptying said container body, a removable cap mounted on said threaded opening, said removable cap carrying a slideable on-off valve for control of said fluid, a flexible wiper blade mounted in one of said side edge recessed grooves, a rigid scraper blade mounted in a second one of said side edge recessed grooves whereby said fluid from said container body placed on a surface containing extraneous matter may be cleaned by removing said fluid and matter with the application of said cleaning device to said surface.

27. A cleaning device as claimed in claim 26 further comprising an abrasive type wiping material mounted adjacent said somewhat

curved recessed front face and a sponge type wiping material mounted adjacent said somewhat curved recessed rear face.

28. A container applicator used to remove undesirable matter from a surface comprising in combination, a fluid container means, an aperture means in said fluid container means to allow egress of fluid relative to said fluid container means, a removable closure means mounted on said aperture means including a selective fluid control means, said fluid container means including a recessed first face, abrasive type material held adjacent said first face, a recessed second face and sponge type wiping material held adjacent said second face whereby said fluid from said fluid container means placed on a surface containing foreign matter may be cleaned by moving said container applicator over said surface and in contact therewith.

29. A combination container applicator a claimed in claim 28 wherein said abrassive type material and said sponge type material are removeably held adjacent their respective faces.

30. A combination applicator as claimed in claims 28 or 29 further including a recessed first curved edge joining said recessed first and second faces, a flexible wiper blade removeably held by said recessed first curved edge, a recessed second curved edge joining said recessed first and second faces and a rigid scraper blade removeably held by said recessed second curved edge.

31. A container applicator for use in removing undesirable matter from a surface comprising in combination, a fluid container body, said container body including two recessed surfaces, abrasive material covering a first of said two recessed surfaces, wiping material covering a second of said two recessed surfaces, said container body including a third surface, a wiper blade mounted on said third surface, an aperture in said fluid container body to permit egress of said fluid therefrom and means mounted on said container body to selectively control said egress.

32. A container - applicator as claimed in claim 31 wherein said two recessed surfaces are adjacent one another.

33. A container - applicator for use in removing undesirable matter from a surface comprising in combination, a fluid container body, said container body including two recessed surfaces, abrasive material covering a first of said two recessed surfaces, wiping material covering a second of said two recessed surfaces, said container body including a third surface, a scraper blade mounted on said third surface, an aperture in said fluid container body to permit egress of said fluid therefrom and means mounted on said container body to selectively control said egress.

34. In a compact hand held multi-purpose cleaning device, a hand manipulable container body for storing cleaning material to be dispensed, one or more recesses in said container body, an abrading device mounted to said container body by way of at least one of said one or more recesses in said container body whereby a surface containing extraneous matter may be cleansed thereof by a movement engaging said surface with said abrading device.

35. The compact hand held multi-purpose cleaning device as claimed in claim 34 wherein snap-in means mounts said abrading device to said at least one recess, thereby releasably holding said abrading device to said container body.

36. The compact hand held multi-purpose cleaning device as claimed in claim 35 wherein said hand manipulable body has mounted thereon selective control means for dispensing cleaning material from said container body.

37. The compact hand held multi-purpose cleaning device as claimed in claims 34, 35, or 36 wherein said selective control means is a spray pump.

38. A compact hand held cleaner used to remove matter from a surface including, a hand manipulable container body for storing cleaning material to be dispensed, a recess in said container body, a non-abrasive wiping pad mounted by way of said recess to said container body whereby a surface containing extraneous matter may be cleansed thereof by a movement engaging said surface with said non-abrassive wiping pad.

39. The compact hand held cleaner as claimed in claim 38 further including snap-in means releasably mounting said non-abrassive

wiping pad to said recess thereby releasably securing said non-abrasive wiping pad to said container body.

40. The compact hand held cleaner as claimed in claim 39 wherein said container body has mounted thereon selective control means for dispensing cleaning material from said container body.

41. The compact hand held cleaner as claimed in claims 38, 39, or 40 wherein said selective control means is a spray pump.

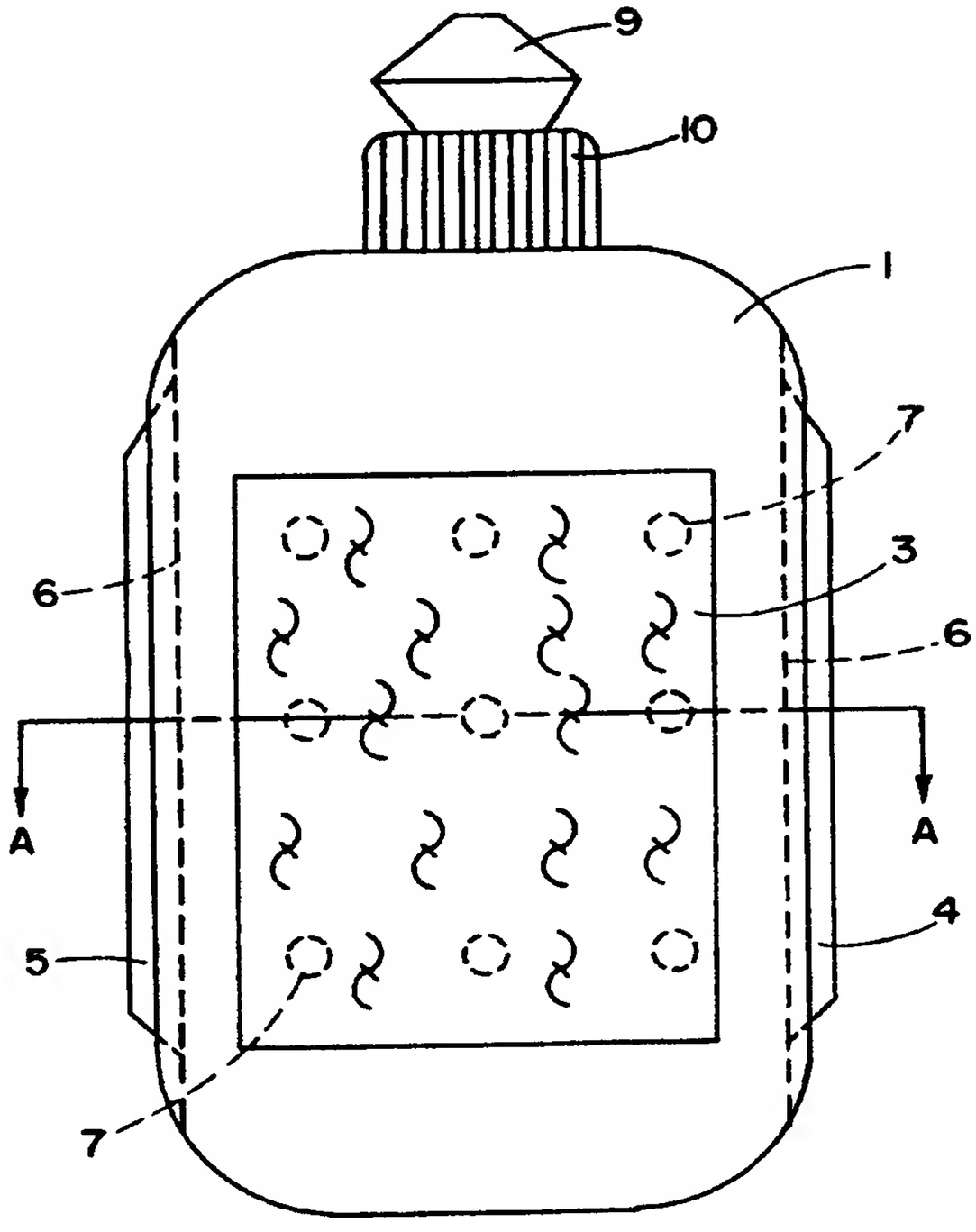

Fig. 1

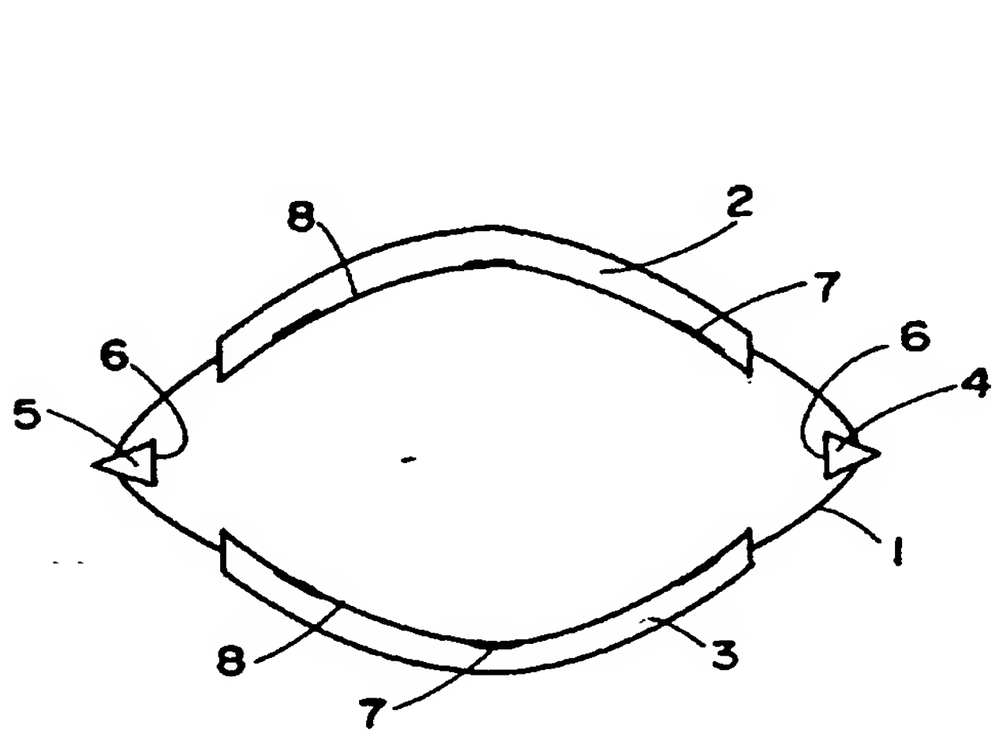

Fig. 2

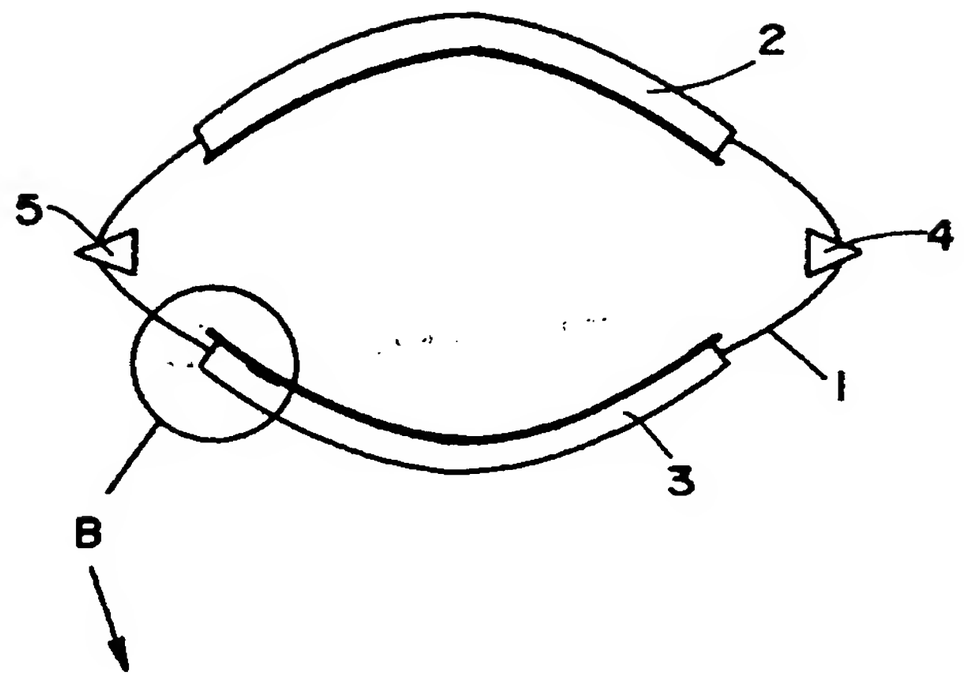

Fig. 3

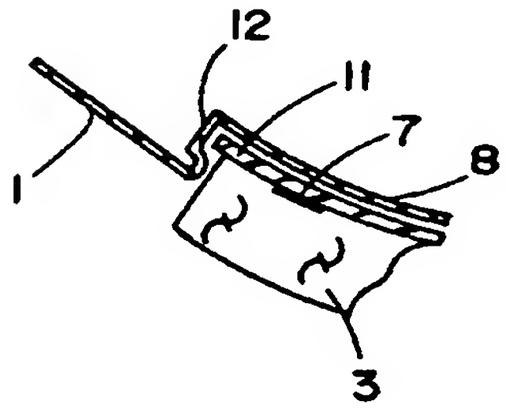

Fig. 4